Attachment 3

Photos of Test Holes Excavated in Plateau Area and Adjacent Areas Made by EPA on 11/12/10











Attachment 4

TSS Memorandum



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

61 FORSYTH STREET ATLANTA, GEORGIA 30303-8960

February 4, 2011

4SD-SSB

MEMORANDUM

SUBJECT: Data Evaluation: Plateau Sampling Event, Zonolite Road Vermiculite Site GAO

144, Atlanta, Dekalb County, Georgia

FROM: Tim Frederick, Life Scientist

Technical Services Section

Superfund Division

TO: Terry Stilman, On-Scene Coordinator

Emergency Response Section

Superfund Division

THRU: Glenn Adams, Chief

Technical Services Section

Superfund Division

TSS has reviewed the data collected by START on December 6, 2010. The samples were collected to confirm the presence of asbestos and asbestos-containing vermiculite chips in the subsurface of a mounded "plateau" area on the Zonolite Road site. The purpose of this review is to evaluate the most recent data in the context of the larger investigation of the site and to provide recommendations to the Emergency Response Section.

HAU.

Human Health Risk Assessment (HHRA) Report

The HHRA has determined that the risks associated with airborne asbestos are minimal under current site conditions. All soil data were reported to be either non-detect or trace (present but below levels that can be quantified) except for two samples that reported low percentage levels of Libby amphibole asbestos (0.5% and 0.75%). These concentrations were both in an area west of the former exfoliation facility that appears to be an artificially raised plateau.

Activity-based air samples (ABS) were also collected. ABS techniques seek to mimic aggress disturbance of soil to determine the concentrations of asbestos that could become airborne through typical use of the site. Of the four activity-based samples collected, three did not detect

any asbestos. The only detection of airborne asbestos (Libby amphibole) in an activity-based air sample was at the detection limit of the analytical technique and was also located identified in the plateau area. In addition, vermiculite was reportedly observed below land surface in the plateau area though the nature and extent of the material was not determined.

Additional evaluation of the subsurface of this area was suggested in the conclusion of the HHRA report.

Asbestos Technical Review Workgroup Site Visit

A site visit was conducted on October 20, 2010 with invited members of EPA's national Asbestos Technical Review Workgroup (TRW) in attendance. The group included members from Region 8 familiar with Libby, MT vermiculite, members of the Emergency Response Team (ERT) familiar with sampling efforts at sites that received vermiculite from Libby, and On-Scene Coordinators (OSCs) from other Regions that are familiar with the investigation of the Libby "sister sites." The draft data, historical information, and known current site uses were presented to the team. Included in the input provided by the visiting group was a recommendation to conduct visual confirmation of the presence/absence of vermiculite below land surface in the soil plateau and surrounding areas.

Investigation of Soil Pile Plateau Site Visit

EPA Region 4 and contractor personnel visited the site again on November 12, 2010. The purpose of the visit was to dig into the plateau and other areas on the site to confirm the presence/absence of vermiculite beneath the ground surface. Test holes were dug in several areas of the plateau and selected other areas of the site. In each of the test holes dug in the plateau, vermiculite was observed within 6-12" below the land surface. Vermiculite was not observed in any of the test holes dug on other areas of the site. Based on these findings, it appears that vermiculite is present below the land surface in the artificial plateau area. Depth of the built-up plateau area ranges from between 0'-6' above the natural grade.

The HHRA Report determined that risks are minimal at the Zonolite Road Vermiculite Site under current site conditions. However, quantities of vermiculite suspected to contain asbestos have been visually identified beneath the land surface in the plateau area.

EPA's Framework for Investigating Asbestos-Contaminated Superfund Sites (EPA 2008) provides a step-wise process for evaluating risks associated with asbestos. Step 1 asks "Does (did) the site use asbestos or materials contaminated with asbestos?" The Zonolite Road vermiculite site is known to have used vermiculite from Libby, MT that is contaminated with a distinct form of asbestos. The "Libby amphibole" form of asbestos has been identified in environmental samples collected at the site.

Step 2 of the Framework process asks "has there been (or is there a threat of) a release to the environment." Identification of the Libby amphibole in environmental samples and the visual presence of vermiculite beneath the land surface in the plateau area is evidence that a release has occurred.

Step 3 of the Framework process asks "Is human exposure likely under current or future site conditions?" The HHRA Report indicates that current exposure/risks are minimal. However, the vermiculite present in the plateau area could result in exposure/unacceptable risks if it is disturbed in the future. The proposed future land use of the site is as a public park that would include a community garden. Plans for the space include gardens located on the area where the plateau is located. Given this detailed future land use, disturbance of the subsurface soil in the plateau seems likely. Potential exposure to asbestos-containing vermiculite and soil through gardening activities appears to be a plausible future exposure pathway.

Based on this potential exposure pathway, EPA conducted additional sampling on December 6, 2010. Samples of the subsurface soil and bulk samples of buried vermiculite were collected to confirm the presence of asbestos within the plateau area.

Plateau Soil/Vermiculite Sample Results

Soil samples collected in the subsurface of the plateau were found to have concentrations ranging from "no asbestos found" to 2% tremolite. Asbestos was identified in each of the bulk samples of vermiculite from <1% to 2% tremolite. See attached draft data summary of the EPA samples and splits collected by WR Grace.

Recommendations

A relationship between the concentration of asbestos in a source material (soil/asbestos-containing vermiculite) and the concentration of fibers in air that results when the source is disturbed is very complex and depends on a broad range of variables. No method has been found to predict the concentration of asbestos in air reliably as it relates to a measured concentration of asbestos in the source material. A low concentration of asbestos in source material may, when disturbed, result in a high concentration of airborne asbestos. Therefore, soil or material concentrations, such as <1%, should not be used to define a "safe" concentration of asbestos for Superfund decision making.

Future land use of the site will result in vigorous and routine disturbance of the soil in the plateau area. An action is warranted in the plateau area to prevent recreational gardeners using the public park from potentially elevated concentrations of airborne asbestos that could result from regular disturbance of the soil and asbestos-containing vermiculite present in the plateau.

If you have any questions regarding this review, you can contact me at 404-562-8598 or frederick.tim@epa.gov.

References: EPA 2008. Framework for Investigating Asbestos-Contaminated Superfund Sites. OSWER Directive #9200.0-68. September 2008. (http://go.usa.gov/CVS).



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Page 1 of 4

	SUU#. 11-0122-12/06/10-0001		Test	Method: C	Report Date:	10000000			
Samplin BLI Proje Project N	ct#: lame:	L629410 2010 U.S. EPA R						Date Sampled: Sampled By: Date Analyzed:	12/28/2010 12/6/2010 CLIENT
Sam	ole ID		pplied Da			cal Data	Ď.	eported Results	12/21/2010
Lab Sample#	Client Sample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components	Asbestiform	
.674411	00142	GAO 144	BULK	NIA	FIRM	BROWN	100% NON-FIBROUS MATERIAL	NO ASBEST	'OS FOUND
674412	00143	GÁÖ 144	SOLID СНІР	NửÁ	FIRM	BROWN	99.5% NON-FIBROUS MATERIAL	0.5% TRE	MOLITE
.674413.	00144	GAO 144	BULK SOLID	N/A	FIRM	BROWN	100% NON-FIBROUS MATERIAL	NO ASBEST	OS FOUND
674414	00145:	GAO 144	eorid Brick	N/A	FIRM	BROWN	99.5% NON-FIBROUS MATERIAL	0.5% TRE	MOLITE
674415	00146	GAO 144	BULK	N/A	FIRM	TAN	100% NOÑ-FIBROUS MATERIAL	TR% TRE	моите

Note 1 Samples analyzed may be classified as non-friable organically-bound (NOB) materials. Binders in NOB materials may interfere with the accurate identification and quantification of asbestos. Therefore, the EPA recommends more definitive analytical methods by matrix reduction. Batta recommends the New York Methods Item 198.6 for the analysis of NOB materials.

Note 2 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. Due to this, the EPA recommends more definitive analysis using analytical electron microscopy.

Note 3 Otherwise specified, Tr=Trace or < 0.25%. Sample 00143 was hand milled.

ANALYST: D. BEARD

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amplin	11-0122-12 g Data				ARB 435 (B	y i olik oot	anng)	Report Date: Date Sampled:	12/28/2010 12/6/2010
BLI Proje Project N	ct#;	L629410 2010 U.S. EPA R	PEGION X_P	BU I NO.	11_0122			Sampled By:	CLIENT
Sam			pplied Da			cal Data	R	Date Analyzed: eported Result:	12/21/2010
Lab Sample#	Client	Sample Location	Material. Type	Friable?	Texture	Color	Non-asbestiform Components	, 1	Components
674416	00147	'GÃO 144	SOLID CHIP	ΝΊΑ	FIRM	BROWN	99.25% NON-FIBROUS MATERIAL	0.75%	TREMOLITE
.674417.	Ö0148	GAO 144	BULK: SOUD	N/A	ĦRМ	BROWN	100% NON-FIBROUS MATERIAL	NO ASBEST	ros found
674418	00149	GAÓ 144	SOLID CHIP	N/A	FIRM	BROWN	100% NON-FIBROUS MATERIAL	TR%	TREMOLITE
674419	00150	GAO 144	BULK: SOLID	N/A	FIRM	BROWN	99.25% NON-FIBROUS MATERIAL	0,75% TRE CHRYS	MOUTE; TR%
674420	00,151	GAO 144	SOLID CHIP	N/A	FIRM	BROWN.	100% NON-FIBROUS MATERIAL	TR%	TREMOLITE

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COC#:	11-0122-12	06/10-0001	Tes	t Method: C	ARB:435 (E	By Point Co	unting)	Report Date:	12/28/2010
Samplin								Date Sampled:	12/6/2010
BU Proje		L629410		_				Sampled By:	CLIENT
Project N		2010 U.S. EPA R						Date Analyzed:	12/21/2010
Samp		Client-su	pplied Da	ta	Analyti	cal Data	R	eported Results	·
Lab Sample#	Client Sample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components	Asbestiform C	omponents
674421	00,152	ĢAO 144	BULK SOLID	N/A	FIRM	BROWN	99.5% NON-FIBROUS MATERIAL	0.5% TREA	юите
674422	00153	GAO 144	BULK SOLID	N/A	FIRM	BRÓWN	100% NON-FIBROUS MATERIAL	TR% TREM	IOLME
674423	00154	GAO 144	SOLID CHIP	N/A	FÎŔM	BROWN	100% NON-FIBROUS MATERIAL	TR% TREM	OLITE
674424	00155	GÃO 144	BULK SÖLID	N/A	FIRM	BROWN	99.25% NON-FIBROUS MATERIAL	0,75% TREM	ЮІПЕ
674425	00j5 <u>8</u>	GÁÓ 144	SOLID)	'Ņ/A	FIRM	BROWN	100% NON-FIBROUS MATERIAL	NO ASBESTOS	FOUND
· ·									

Note 1 Samples analyzed may be classified as non-friable organically-bound (NOB) materials. Binders in NOB materials may interfere with the accurate identification and quantification of asbestos. Therefore, the EPA recommends more definitive analytical methods

Note 2 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. Due to this, the EPA recommends more definitive analysis using analytical electron microscopy.

Note 3 Otherwise specified, Tr=Trace or < 0.25%. Sample 00154 was hand milled.

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	11-0122-12	06/10-000:1	Test	Method: C	ARB 435 (B	y Point Cou	Poned Date.		
Samplin	g Data					,, = ,,, = ,,		Report Date:	12/28/2010
3LI. Proje	ect#:	L629410		•				Date Sampled:	12/6/2010
roject N			EGION:4 D	DO LUO.				Sampled By:	CLIENT
			KON NO:			Date Analyzed:	12/21/2010		
		ta	ta Analytical Data		R	eported Results			
Lab Sample#	Client Sample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components	Asbestiform (
674426	:00ĭ157° .	GÃÖ 144	SOLID CHIP	N/A	FIRM	BROWN	100% NON-FIBROUS MATERIAL	TR% TRE	моцте

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Note 3 Otherwise specified, Tr=Trace or < 0.25%. Sample 00157 was hand milled.

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COC#	11-0122-12	70074 0004						 -	
Samplin		00/10-0001	Test	Method: C/	VRB 435 (B	y Visual Est	imates)	Report Date:	2/7/2011
BLI Proje Project N	ect #:	L629410 2010 U.S. EPA F	REGION 4-P	ROJ NO:	11-0122			Date Sampled: Sampled By:	12/6/2010 CLIENT
Samp	ole ID	Client-su	pplied Da	ta		cal Data		Date Analyzed:	12/23/2010
Lab Sample#	Client Sample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components	Reported Results Asbestiform Co	mponents
674411	00142	GÁO 144	BULK	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	NO ASBESTO	
674412	00143.	GAO 144	SOLID CHIP	N/A	FIRM	BLACK	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TREM	DLITE
574413	00144	GAO 144:	BULK SOLID	Ņ/A	FIRM'	BROWN	3% CELLULOSE 97% NON-FIBROUS MATERIAL	NO ASBESTOS	FOUND
74414	00145	GAO 144	BÜLK SOLID	N/A	FIRM	BROWN	2% CELLULOSE 96% NON-FIBROUS MATERIAL	2% TRE	моите
74415	00146	GAO 144	BULK SOLID	N/A	FIRM	GRAY	2% CELLULOSE 95% NON-FIBROUS MATERIAL	2% TRE	MOLITE

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COC#: 11 Sampling SLI Project	1-0122-12/	1040 00a4						•	
	Dete	06/10-0001	Test	Method: C/	NRB 435 (B)	/Visual Est	imates)	Report Date:	<i>2/7/</i> 2011
roject Nar	t#: me:	L629410 2010 U.S. EPA F	REGION 4-P	ROJ NO:	11-0122			Date Sampled: Sampled By:	12/6/2010 CLIENT
Sample	e ID	Glient-su	pplied Da	ta		cal Data	- D	Date Analyzed:	12/23/2010
Lab ample#∞S	Client ample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components	eported Results Asbestiform	
574416: ·	00147	.GAO 144	SÖLID CHIP	N/A	FIRM	BROWN	2% CELLULOSE 96% NON-FIBROUS MATERIAL	2% Ti	REMOLITE
74417 (00148	GÁO 144	BULK SOLID	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	NO ASBESTO	OS FOUND
7,4418. o	90149	GAO 144	SOLID CHIP	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TREA	NOLITE
74419 o	0150.	GAO 144	BULK SOLID	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TR	EMOUTE
74420 00	0151	GAO 144	SOUD CHIP	N/Ą	FIRM.	GRAY	<1% CELLULOSE 100% NON-FIBROUS MATERIAL	<1% TREM	OUTE

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Page 3 of 4

COC#: 11 Sampling BLI Project Project Na	Data			Mathad: Ca	DD 455 /D				
Project Na			,,,,,,	,-u,oo, O	ило 499 (В	y Visual Es	umates)	Report Date:	2/7/2011
'roiect Na	t#:	L629410						Date Sampled:	12/6/2010
		2010 U.S. EPA I	REGION 4-F	ROJ NO:	11-0122			Sampled By:	CLIENT
Sample	e ID	Client-su	ipplied Da	ta		ical Data		Date Analyzed:	12/23/201
	Client:	Sample Location	Material	Friable?			Non-asbestiform	eported Results	·
Sample# S	ample#		Туре		Texture	Color	Components	Asbestiform C	components
674421	00152	GÁO 144	eorid Bárk	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TRE	MOLITE
574422 č	00153	GAO 144	SOND.	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TR	EMOLITE
74423 o	XX154	GAO 144	SOUD CHIP	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TREM	OLITE
74424 oo	0155	GÁO 144.	BULK	N/A	FIRM	BROWN	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TR	EMOLITE
74425: 00)1 <u>5</u> 6	GAO-144	BULK SOLID	N/A	FIRM	GRAY	2% CELLULOSE 98% NON-FIBROUS MATERIAL	NO ASBESTOS	FOUND

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Page 4 of 4

	. —						■	90 . 0.
	06/10-0001	Test	Method: CA	NRB 435 (By	Report Date	2/7/2011		
g Data	1 620440							12/6/2010
Project Name: 2010 U.S. EP		REGION 4-PROJ NO: 11-0122				Sampled By:	CLIENT	
					al Data	R		12/23/2010
Client Sample#	Sample Location	Material Type	Friable?	Texture	Color	Non-asbestiform Components		
00157	GAO 144	SÓTID CHIB	N/A	FIRM	GRAY	2% CELLULOSE 98% NON-FIBROUS MATERIAL	<1% TRE	MOLITE
	g Data ect #: lame: ble ID Client Sample#	ect#: L629410 lame: 2010 U.S. EPA R ple ID Client-su Client Sample# Sample Location	g Data ect #: L629410 lame: 2010 U.S. EPA REGION 4-P ole ID Client-supplied Da Client Sample Location Material Type	g Data cct #: L629410 lame: 2010 U.S. EPA REGION 4-PROJ NO: DIe ID Client-supplied Data Client Sample Location Material Type Friable? SOLID CHIP	g Data cct #: L629410 lame: 2010 U.S. EPA REGION 4-PROJ NO: 11-0122 DIe ID Client-supplied Data Analytic Client Sample Location Material Type Friable? Texture	g Data set #: L629410 lame: 2010.U.S. EPA REGION 4-PROJ NO: 11-0122 DIE ID	g Data set #: L629410 lame: 2010 U.S. EPA REGION 4-PROJ NO: 11-0122 DIe ID Client-supplied Data Analytical Data R Client Sample Location Material Type Friable? Texture Color Non-asbestiform Components 00157 GAO 144 SOLID CHIP N/A FIRM GRAY 98% NON-FIBROUS	g Data set #: L629410 lame: 2010 U.S. EPA REGION 4-PROJ NO: 11-0122 Die ID Client-supplied Data Analytical Data Reported Results Client Sample Location Material Type Friable? Texture Color Non-asbestiform Components Asbestiform Components Date Sampled By: Date Analyzed: Date

Revision 1: Sample colors for some samples were revised.

Note 1 Samples analyzed may be classified as non-friable organically-bound (NOB) materials. Binders in NOB materials may interfere with the accurate identification and quantification of asbestos. Therefore, the EPA recommends more definitive analytical methods

Note 2 Due to limitations of the EPA PLM method, floor tiles may yield false negative (<1%) results by this method. Due to this, the EPA recommends more definitive analysis using analytical electron microscopy.

Note 3 Otherwise specified, Tr=Trace or < 0.2% based on visual estimate. Sample 00157 was hand milled.

ANALYST:

J. Tsai.

REVIEWED BY:

[&]quot;This report does not constitute endorsement by NVLAP and/or any other US government agencies.

[&]quot;The test data pertain only to the items tested. No assumptions or conclusions should be made to materials or samples not analyzed. Furthermore, Batta Laboratories, Inc. assumes no responsibility for the accuracy of results influenced by the use of improper collection techniques or equipment.

^{*} Due to the general heterogeneity of asbestos containing materials (ACM), EPA and OSHA have recommended submission of at least three samples of each type of materials for PLM analysis. Submission of fewer samples may compromise the accuracy of ACM determination.

^{*} Electronic versions of the certificate of analysis (i.e. Excel files, PDF files, Word files, etc.) are not under the warranty of authenticity and accuracy of the original analytical results kept on file by the Batta Laboratories, Inc. (BLI). Under all circumstances BLI should be notified in writing for any changes made to these electronic certificates of analysis. Unifer no circlimstances will BLI be liable for changes made to the electronic certificate of analysis without BLI's prior consent in writing.

Attachment 5

Enforcement Confidential Addendum

Enforcement Confidential Addendum

EPA's Addendum is Enforcement Confidential, and is considered to be Attorney Client Privileged.

Appendix B

Cost Summary

Report Date: 03/16/2011

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IFMS Reconciliation Pending

Narrative Cost Summary

- The United States Environmental Protection Agency has incurred at least \$12,218.33 for Regional Payroll Costs.
- 2. The United States Environmental Protection Agency has incurred at least \$534.00 for Regional Travel Costs.
- The United States Environmental Protection Agency has incurred costs of at least \$1,550.00 for OTHER EXPENDITURES contract expenditures. The total represents the amount spent under the EMSL ANALYTICAL INC. contract.
- 4. The United States Environmental Protection Agency has incurred costs of at least \$93,789.63 for SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START) contract expenditures. The total represents the amount spent under the TETRA TECH EM INC. contract.
- The United States Environmental Protection Agency has incurred costs of at least \$15,387.96 for Miscellaneous Expenses.
- 6. The United States Environmental Protection Agency has incurred at least \$61,147.28 for Indirect Costs.

		•		
Total Site Costs:			- 10	\$184,627.20
			*	Ψ104,021.20
	and the second s			

Report Date: 03/16/2011

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IFMS Reconciliation Pending

Itemized Cost Summary

REGIONAL PAYROLL COSTS	
	\$12,218.33
REGIONAL TRAVEL COSTS	
OTHER EXPENDITURES	\$534.00
EMSL ANALYTICAL INC. (0R0429NTSA)	\$1,550.00
SUPERFUND TECHNICAL ASSISTANCE RESPONSE TEAM (START)	
TETRA TECH EM INC. (EPW05054)	\$93,789.63
MISCELLANEOUS COSTS (MIS)	\$15,387.96
EPA INDIRECT COSTS	7.00,700
***************************************	\$61,147.28
Total Site Costs:	\$184,627.20
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Report Date: 03/16/2011

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IFMS Reconciliation Pending

Regional Payroll Costs

				•	
Employee Name		Fiscal <u>Ye</u> ar	Pay	Payroli	Payroll
CERON, LEONARDO			Period	<u>Hours</u>	Costs
ENVIRONMENTAL SCIENTIST		2010	06	10.00	540.50
00.2117.01			13	27.00	1,513.15
			14	56.00	3,264.39
•			15	4.00	223.81
				97.00	\$5,541.85
CROWE, MICHAEL J.		2010	13	23.00	932.52
				23.00	\$932.52
NOAH, GREGORY W. ENVIRONMENTAL SCIENTIST		2010	13	16.00	826.29
			_	16.00	\$826.29
RIVERA-BARRETO, FERNANDO		2011	10	14.00	774.00
ENVIRONMENTAL ENGINEER			11	22.00	771.36 1,212.15
				36.00	
STILMAN, TERRY ENVIRONMENTAL SCIENTIST		2011	06	16.00	\$1,983.51 1,125.75
TUDNIST			• —	16.00	\$1,125.75
TURNER, NARDINA		2010	14	2.25	144.09
ENVIRONMENTAL SCIENTIST			15	0.25	16.01
			17	0.50	32.85
• • • • • • • • • • • • • • • • • • •			26	0.25	16.43
			27	2.00	131.39
.*	•	2011	01	4.00	262.76
			02	3.00	197.85
		•	03	4.00	263.79
			04	3.25	214.32
			06	2.50	164.86
			07	1.00	65.96
			80	0.50	33.12
			09	1.00	66.25
			10	2.75	182.16

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IFMS Reconciliation Pending

Regional Payroll Costs

Employee Name TURNER, NARDINA	Fiscal <u>Year</u> 2011	Pay <u>Period</u> 11	Payroll Hours 0.25 27.50	Payroll
Total Regional Payroll Costs		. =	215.50	\$12,218.33